



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,841	12/29/2000	Vivek Kashyap	BEA9-2000-0011-US1	1014

25253 7590 10/21/2003

IBM CORPORATION  
IP LAW DEPT, ED02-905  
15450 SW KOLL PARKWAY  
BEAVERTON, OR 97006-6063

EXAMINER

LE, DIEU MINH T

ART UNIT	PAPER NUMBER
----------	--------------

2184

DATE MAILED: 10/21/2003

24

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/752,841

Applicant(s)

KASHYAP, VIVEK

Examiner

Dieu-Minh Le

Art Unit

2184

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 April 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____.                                   |

**Part III DETAILED ACTION**

**Specification**

1. Claims 1-19 are presented for examination.

**Claim Rejections - 35 USC § 103**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable Lee et al. (US Patent 6,601,101 hereafter referred to as Lee) in view of Espy et al. (US Patent 5,922,077 hereafter referred to as Espy).

Art Unit: 2184

As per claim 1:

Lee substantially teaches the invention. Lee teaches:

- a method by which a second system maintains connections for a failed first system [abstract, fig. 6 and 7, col. 1, lines 25-30 and lines 15-22, col. 23, lines 19-31]

comprising:

- receiving information from the first system on which an application is running [fig. 10, col. 3, lines 45-56, col. 4, lines 50-60, and col. 10, lines 60 through col. 11, lines 6]
- determining that the first system is in a failed state [col. 19, lines 63 through col. 20, lines 16 and col. 23, lines 19-31];
- assuming a connection for the first system [col. 4, lines 4-8];

Lee does not explicitly teach:

- an ownership information.

However Lee does disclose capability of:

- a method for handing off TCP sessions in system including a transparent access to network attached devices [abstract, fig. 6 and 7, col. 1, lines 25-30 and lines 15-22, col. 23, lines 19-31] comprising:

Art Unit: 2184

- a connectivity among first, second, and third devices, switches, client/server, and other computing devices [fig. 1A-B and 2A-B, col. 5, lines 49 through col. 6, lines 60];
- state information including source/destination IP addresses, port numbers, TCP sequence, etc...(i.e., ownership information) [col. 9, lines 5-22];
- application information (i.e., file directory, system configuration, protocol and logic control information, etc...(i.e., ownership information) [col. 4, lines 46-65 and col. 17, line 23-45];
- load balancing and fail-over capabilities to support first, second, and third devices or system connectivity [col. 23, lines 19-31];

In addition, Espy explicitly teaches:

- a recovery and fail-over method having plurality of device connected via communication paths [abstract, col. 1, lines 5-15];  
comprising:
  - fail-over switch for routing data including transmitting/receiving information, communication port, routing information, etc... [col. 45, lines 14 through col. 6, lines 58];

Art Unit: 2184

- data acknowledgement and data specification in supporting fail-over connection [col. 4, lines 30-64].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made first, to realize the Lee's method for handing off TCP sessions in system including a transparent access to network attached devices comprising state information including source/destination IP addresses, port numbers, TCP sequence, etc...(i.e., ownership information) and application information (i.e., file directory, system configuration, protocol and logic control information, etc...(i.e., ownership information) as being the ownership information as claimed by Applicant. This is because the Lee's method for handing off TCP sessions in system does perform the data/system fail-over detection and correction via system data information or ownership information, such as IP addressing, port numbers, node ID, etc... in ordering to ensure system operation continuity. Lee clearly demonstrated the state information used to allowing the application running without any disruption among the first, second, and third devices or systems connectivity; second, one would modify the Lee's method for handing off TCP sessions to explicitly including the fail-over switch for routing data including transmitting/receiving

Art Unit: 2184

information, communication port, routing information, etc...as taught by Espy's recovery and fail-over method having plurality of device connected with communication paths in supporting the data/system connectivity error detection and restoration via the fail-over process.

This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so to provide the systems connectivity with data/communication path error detection and correction via fail-over capability with a mechanism to enhance the data/network interfaces, performance, availability, and data/network operation in ordering to providing an optimal data/information error detection and correction system. It is further obvious because by utilizing this approach, the computer devices or systems with error detection and correction (i.e., fail-over) capabilities can be realized in:

- first, any error, or failure occurred can be identified, detected, repaired, corrected via data processing scheduling/access, data transmission control, and correct data execution via state information or ownership information;
- second, the communication systems can operate with a high reliability and flexibility environment which will correctly

Art Unit: 2184

provide optimum data availability and transmission throughput among end user real-time communication and execution.

As per claims 2-4:

Lee substantially teaches the invention. Lee teaches:

- a method by which a second system maintains connections for a failed first system [abstract, fig. 6 and 7, col. 1, lines 25-30 and lines 15-22, col. 23, lines 19-31]

comprising:

- booted second system [col. 4, lines 25-32 and col. 6, lines 15-28];
- a fail-over policy [col. 21, lines 42-61];
- source/destination IP addresses [col. 4, line 1 and col. 5, lines 52-54];
- a range of port number [col. 3, lines 67 and col. 6, line 42-45];
- an application running on the system [col. 10, lines 60 through col. 11, line 6];
  - a current protocol [col. 4, lines 50-56 and col. 8, lines 30-35];
  - MAC and IP addresses [col. 14, lines 60-65 and col. 5, lines 52-54];
  - a cluster node ID [col. 8, lines 30-35].

Lee does not explicitly teach:

- an ownership information.

However Lee does disclose capability of:

- a method for handing off TCP sessions in system including a transparent access to network attached devices [abstract, fig. 6 and 7, col. 1, lines 25-30 and lines 15-22, col. 23, lines 19-31] comprising:
  - a connectivity among first, second, and third devices, switches, client/server, and other computing devices [fig. 1A-B and 2A-B, col. 5, lines 49 through col. 6, lines 60];
  - state information including source/destination IP addresses, port numbers, TCP sequence, etc...(i.e., ownership information) [col. 9, lines 5-22];
  - application information (i.e., file directory, system configuration, protocol and logic control information, etc...(i.e., ownership information) [col. 4, lines 46-65 and col. 17, line 23-45];
  - load balancing and fail-over capabilities to support first, second, and third devices or system connectivities [col. 23, lines 19-31];

Art Unit: 2184

In addition, Espy explicitly teaches:

- a recovery and fail-over method having plurality of device connected via communication paths [abstract, col. 1, lines 5-15];  
comprising:
  - fail-over switch for routing data including transmitting/receiving information, communication port, routing information, etc... [col. 45, lines 14 through col. 6, lines 58];
  - data acknowledgement and data specification in supporting fail-over connection [col. 4, lines 30-64].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made first, to realize the Lee's method for handing off TCP sessions in system including a transparent access to network attached devices comprising state information including source/destination IP addresses, port numbers, TCP sequence, etc...(i.e., ownership information) and application information (i.e., file directory, system configuration, protocol and logic control information, etc...(i.e., ownership information) as being the ownership information as claimed by Applicant. This is because the Lee's method for handing off TCP sessions in system

Art Unit: 2184

does perform the data/system fail-over detection and correction via system data information or ownership information, such as IP addressing, port numbers, node ID, etc... in ordering to ensure system operation continuity. Lee clearly demonstrated the state information used to allowing the application running without any disruption among the first, second, and third devices or systems connectivity; second, one would modify the Lee's method for handing off TCP sessions to explicitly including the fail-over switch for routing data including transmitting/receiving information, communication port, routing information, etc...as taught by Espy's recovery and fail-over method having plurality of device connected with communication paths in supporting the data/system connectivity error detection and restoration via the fail-over process for the same reasons set forth as described in claim 1, supra.

As per claims 5-10:

Lee substantially teaches the invention. Lee teaches:

- a method by which a second system maintains connections for a failed first system [abstract, fig. 6 and 7, col. 1, lines 25-30 and lines 15-22, col. 23, lines 19-31] comprising:

Art Unit: 2184

- determining first system returned from the failed state to a normal state [col. 9, lines 5-22, and col. 24, lines 46-60];
- first and second system are within a cluster of system [col. 3, lines 41-45 and 58-60];
- TCP connections [col. 3, lines 32-41];
- snooping connection of the first system (i.e., TCP sessions with flag SET and update and traffic monitoring via TCP SYN flag) [col. 10, lines 37-51 and col. 22, lines 30-46];
- continuing the application from the point at which first system failed [col. 10, line 60 through col. 11, lines 6];
- a third system attempt to assume the connection and sending from the third system to the second system a request to assume the connection [col. 3, lines 63-65 and col. 6, line 4-12].
- load balancing and fail-over capabilities to support first, second, and third devices or system connectivities [col. 23, lines 19-31];

In addition, Espy explicitly teaches:

- a recovery and fail-over method having plurality of device connected via communication paths [abstract, col. 1, lines 5-15];
- comprising:

Art Unit: 2184

- fail-over switch for routing data including transmitting/receiving information, communication port, routing information, etc... [col. 45, lines 14 through col. 6, lines 58];
- data acknowledgement and data specification in supporting fail-over connection [col. 4, lines 30-64].

As per claims 11-14:

Due to the similarity of claims 11-14 to claims 1-10 except for a system for maintaining a connection with a network means (i.e., broadcasting ownership information means, determination means, transmitting means, etc...) instead of a method by which a second system maintains connections for a failed first system steps (i.e., running/receiving ownership information (i.e., broadcasting) step, determination step, transmitting step, etc...); therefore, these claims are also rejected under the same rationale applied against claims 1-10. In addition, all of the limitations have been noted in the rejection as per claims 1-10.

As per claims 15-19:

These claims are the same as per claims 1-10. The only minor different is that these claims are directed to an article

Art Unit: 2184

for maintaining connections by a second system for a first system having computer-readable medium instead of the method by which a second system maintains connections for a failed first system as described in claims 1-10. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to realized that the article with computer-readable medium is a necessary item for such communication devices including remote device or client-server networking system, more specifically, data communication or transmission fail-over among first, second, and third system or client-server system. Since the first, second, and third data transmission or client-server obviously needs a means for instruction or code means resided within the computer-readable medium for performing the data storing, receiving, detecting, tracking, monitoring, repairing, restarting, and transmitting operation capabilities. Therefore, these claims are also rejected under the same rationale applied against claims 1-10.

#### **Conclusion**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2184

5. A shortened statutory period for response to this action is set to expired THREE (3) months, ZERO days from the date of this letter. Failure to respond within the period for response will cause the application to be abandoned. 35 U.S.C. 133.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dieu-Minh Le whose telephone number is (703) 305-9408. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel, can be reached on (703)305-9713. The fax phone number for this Group is (703)746-7240.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 746-7239, (for formal communications  
intended for entry)

**Or:**

(703) 746-7240 (for informal or draft  
communications, please label "PROPOSED" or  
"DRAFT")

Art Unit: 2184

Hand-delivered responses should be brought to Crystal  
Park II, 2121 Crystal Drive, Arlington. VA., Sixth  
Floor (Receptionist).

  
**DIEU-MINH THAI LE**  
**PRIMARY EXAMINER**  
**ART UNIT 2184**

DML  
10/7/03